

Bridge Inspection							
Bridge File Number	00903 -1 Bridge			Form Type	SG		
Year Built/Year Supstr	1954/1954			Lot No.	2		
Bridge or Town Name	TWIN BUTTE			Inspector Name	Jason Rusu		
Located Over	YARROW CREEK, 2.12.22.5.14.2, WATERCRS-ST			Inspector Class	BR CLS A		
Located On	6:04 C1 18.260			Assistant Name			
Water Body Cl./Year				Assistant Class			
Navigabil. Cl./Year				Inspection Date	30-Oct-2011		
Legal Land Location	SE SEC 8 TWP 4 RGE 29 W4M			Data Entry By	Erin Roberts		
Longitude, Latitude	-113:51:35, 49:16:57			Data Entry Date	29-Nov-2011		
Road Authority	Alberta Transportation (AIT)			Reviewer Name	Garry Roberts		
Contract Main. Area	CMA26			Review Date	12-Nov-2011		
Clear Roadway/Skew	9.1 /			Dept. Reviewer Name	Tim Davies		
AADT/Year	1,010 / 2010 (A)			Dept. Review Date	01-Dec-2011		
Road Classification	RAU-211.8-110			Follow-Up By			
Detour Length (km)	8						
Allowable Load (t):	Single	CS1 76 GIRDER	Semi	CS2 94 GIRDER	Train	CS3 112 GIRDER	----> On Critical Spans ---->Critical Member
Design Loading:	HS20						----> Primary Span

Posting Information							
Required Load Posting (t)	Single				Semi		Truck Train
Posted Loading (t)	Single				Semi		Truck Train
Posted:	Lane	NB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N) No
Posted:	Lane	SB	At Junction (Y/N)	No	In Advance (Y/N)	No	At Bridge (Y/N) No
Remarks	Not req.						
Hazard Marker At Bridge (Y/N)	No						
Remarks							
Other Sign Types	Curve (both direc) 85kph advisory. Creek ID.						

Utilities (Located at)			
Utility Attachments	TELEPHONE UTILITIES-PHONE LINE		
Telephone	East & West ditch-conduit under both curbs.	Gas	150m South.
Power	2 wire crosses road 150m South.	Municipal	
Others		Problem (Y/N)	No
Remarks			

Approach Road				
		Last	Now	Explanation of Condition
Horizontal Alignment		4	4	Winding, steep grade in both ends.
Vertical Alignment		4	4	
Roadway Width (m)	9.100			Not thriebeam.
Approach Bump		6	6	
Guardrail (Y/N)	Yes			
Guardrail		5	5	
Length (m)	30.000			
Current Standard (Y/N)	No			
Termination Type	TURNED DOWN			
Drainage		6	6	
<b>Approach Road General Rating</b>		<b>4</b>	<b>4</b>	

Superstructure					
Bridge Component		Last	Now	Explanation of Condition	
(Primary Span : RB, 5 Spans, Lengths(m): 18.3-24.4-24.4-24.4-21.3, A-Ident Number: A0189-05;A0189-04;A0189-03;A0189-02;A0189-01)					
<b>Special Features</b>					
Special Feature			X		
(Type : )					
Special Feature			X		
(Type : )					
Wearing Surface/Deck Top Detail Ratings					
	N (%)	1 (%)	2 (%)	3 (%)	
<b>Last</b>	0	0	0	0	
<b>Now</b>	0.0	0.0	0.0	0.0	
Wearing Surface			4	4	Wide spread medium & wide map cracks. Spalls @ deck joints Pier 1, 2, 3
(Material Type : <b>CONCRETE</b> )					
(Thickness(mm) : <b>50</b> )					
Deck Top			N	N	
Deck Rideability			7	7	
Deck Joints			6	6	
Temperature (deg. C)		4			
(Expansion Type : <b>ARMoured GLAND (WABO UNDER FINGER OR SLIDING PLATES)</b> )					
(Fixed Type : )					
Gap Size (mm)		Gap Location			
70		N. abut			
62		Pier 4			
70		Pier 3			
57		Pier 2			
66		S. pier			
55		S. abut			
Deck Drainage			7	7	
Drains Clogged (Y/N)		No			
Curbs/Median			3	3	Based on curb measurement of 300mm total curb height. 180mm curb height remaining. Several curb top patched failed. Scaling @ top @ spans 2, 3, 4 @ East. 300mm spall & exposed rebar @ span 2 @ East curb ext flexural cracks, leaching outer underside. Parapet parging spalled @ 4 corners.
(Curb Type : <b>Standard</b> )					
Scaling (Percent Area)		5			
Bridge Rail			6	6	Minor bends @ NW panel.  Wide vertical cracks 10 posts & some with scaling.  Large spall with exposed rebar at 5th post North of P2 at West and at 5th post from A1 at East
(Type : <b>GALVANIZED STEEL VERTICAL BAR</b> )					
Bridge Rail Posts			3	3	
(Type : <b>CONCRETE</b> )					
Bridge Rail/Posts Coating			5	5	
(Type : <b>GALVANIZED</b> )					
Sidewalk			X	X	
<b>Girder/Beam</b>					
Cover Plate			5	5	Noticeable sag span 2, 3 & 4. Est 20mm to 30mm. Weld @ Cover plates rated 3 from Oct 2003 level 2 inspection not seen due to not accessible from the ground @ this 2003 Level 1 Inspection  (Cracks were noted @ cover plate welds @ 2003 Level 2 insp)
Flange			7	7	
Web			7	7	
Stiffeners			X	X	
Splice			X	X	
Weld			3	3	

Superstructure				
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Diaphragms/Cross Frame		4	4	Diaphragms are steel angles encased in concrete. 80% of end diaphragms have delaminated along bottom flange.
Paint Condition		4	4	Cover plates & bottom flanges rusting at drains, approx. 2%. Majority of paint is good. green
(Colour Description : )				
(Colour Code : )				
Touchup Required (Y/N)	No			
Bearings		6	6	South abutment bearings rehabed. Bolts & plate welded in @ bearings. South abutment has moved forward towards stream (unable to confirm)
Temperature (deg. C)	4			
(Expansion Type : <b>STEEL SLIDING PLATES WITH BRONZE PLATE IN BETWEEN</b> )				
(Fixed Type : <b>STEEL SLIDING PLATES WITH BRONZE PLATE IN BETWEEN</b> )				
Coating Adequate (Y/N)	Yes			
Functioning (Y/N)	Yes			
Deck Underside		5	5	White stains through cracks under gutter area. Transverse and longitudinal cracks every approx .5m.
Stains (Percent Area)	10			
<b>Span Alignment Problems</b>				
Vertical (Y/N)	No			
Horizontal (Y/N)	No			
<b>Superstructure General Rating</b>		<b>3</b>	<b>3</b>	General Rating Carried Forward from oct 2003 level 2 inspection
Substructure				
Bridge Component		Last	Now	Explanation of Condition
<b>Abutments</b>				
Bearing Seats/Caps		6	6	
(Type : <b>CONCRETE</b> )				
Backwalls/Breastwalls		6	6	
Wingwalls		4	4	Light spalling at top of NE wingwall
Piles		N	N	Buried
Paint/Coating		X	X	
Abutment Stability		6	6	(South abutment moved toward stream.) Can't confirm.
Scour/Erosion		7	7	
<b>Piers/Bents</b>				
(Type : <b>PIER-SOLID</b> )				Worst scaling @ piers is at North pier @ West side - minor loss of concrete under bearing. SPALL @ PIER 3 EAST SIDE @ EXT BRG Spalling @ pier 2 cap
Bearing Seats/Caps		4	4	
(Type : <b>CONCRETE</b> )				
(Total Number of Bearing Piles : <b>0:0:0:0</b> )				4 pier columns
Pier Shaft/Piles		7	7	
Bracing/Struts/Sheathing		X	X	
Nose Plate		X	X	
Paint/Coating		X	X	
(Colour Description : )				
(Colour Code : )				
Pier Stability		7	7	

Substructure				
Bridge Component		Last	Now	Explanation of Condition
Scour		8	8	
Debris (Y/N)	Yes			Minor drift @ pier 3
<b>Substructure General Rating</b>		<b>4</b>	<b>4</b>	
Structure Usage				
		Last	Now	Explanation of Condition
<b>Channel</b>				
(U/S Direction : <b>W</b> )				
(D/S Direction : <b>E</b> )				
Alignment		6	6	
Bank Stability		6	6	
HWM (m below Top of Curb)	10.0			Drift at Pier 3
Drift (Y/N)	Yes			
Slope Protection		7	7	
(Type : <b>RIP RAP; RIP RAP</b> )				
Guidebank/Spurs		X	X	
Adequacy of Opening		7	7	
(Fish Compensation Measure 1 : <b>NONE</b> )				
(Fish Compensation Measure 2 : <b>NONE</b> )				
<b>Channel General Rating</b>		<b>6</b>	<b>6</b>	

Maintenance Recommendations							
Inspector Recommendations	Year	Inspector Comments	Department Comments	Target Year	Est. Cost	Cat #	
REPAIR/REPLACE BRIDGE RAIL	2012	Patch worst posts @ SE 15m3nh- approx. 10.					
GALVANIZE/PAINT BRIDGE RAIL							
RETROFIT BRIDGE RAIL							
SEAL CURBS	2012	Approx. 2m2					
PATCH DECK	2012	Repair spalls P2, P1 & P3 & P4 est 0.03 heh.					
SEAL DECK	2012	Seal cracks- flood cont epoxy.					
OVERLAY DECK							
REPAIR/REPLACE DECK JOINTS							
RESET/ PAINT BEARINGS							
REPAINT SUPERSTRUCTURE							
STRAIGHTEN/REPLACE MEMBERS							
WASHING							
SHOTCRETE REPAIRS							
REPAIR ABUTMENT SCOUR/EROSION							
PLACE ADDITIONAL RIP RAP							
REMOVE DRIFT ACCUMULATION							
OTHER ACTION	2012	Weld cover plates if not done					
OTHER ACTION							
OTHER ACTION							
OTHER ACTION							
<b>Structural Condition Rating (Last/Now) (%)</b>	<b>38.9/38.9</b>	<b>Sufficiency Rating (Last/Now) (%)</b>	<b>50.2/50.1</b>	Est. Repl. Yr	2025	Maint. Req. (Y/N)	Yes
Special Comments for Next Inspection			Department Comments				
Maintenance Reviewed By			Date			Estimated Total	0
Proposed Long-Term Strategy							
On 3-Year Program (Y/N)							
Proposed Action							
Previous Inspector's Name	Garry Roberts		Previous Assistant's Name				
Next Inspection Date	30-Jul-2013		Previous Inspection Date	19-Oct-2009			
Inspection Cycle (Default) (months)	21						
Comment							